Lightning Boy Audio
NuVision

Users Guide

Thank you for supporting my addiction to designing vacuum tube audio electronics. A part of every purchase goes towards finding a home for orphan vacuum tubes. This guide was put together to help you get the most out of your new tone investment.

The NuVision was designed to last longer than you. The 5-year warranty it comes with is a footling redundancy. The nuvistor tubes in it are soldered directly to the circuit board like transistors because they will last as long as transistors. Unlike a 12AX7, there are no similar tubes to swap for different tonal results. It is ill advised to access the contents of the NuVision, as this will void the 30-day return policy. Opening of the case should only occur for inspection or repair purposes by a qualified individual if a fault has been detected. Should access be needed for servicing in the distant future, please unplug the power source from the pedal beforehand. This will prevent any possibility for electrical shock. The NuVision is a high voltage device, but it was designed with safety in mind. It will automatically discharge its internal high voltage capacitor upon power down. Repeated unnecessary opening of the case is recommended against as this can gradually weaken the internal wiring.

To get started, one must connect a 9-volt direct current power adapter to the DC input of the pedal with a center-negative 5.5mm barrel connector. The NuVision draws 300mA of current during operation. Please be sure to power it with an adapter that supplies at least that amount. Do not exceed 9v! The pedal is designed to operate properly at the specified voltage. Exceeding this voltage rating may cause permanent damage to the vacuum tubes and other components in the pedal. You will not get more headroom or a tighter sound by increasing the voltage. 12v = bad news. 18v = a really bad day. Conversely, you will not get a more soggy sound by reducing the voltage. In fact, the pedal will likely fail to power up if the supply voltage is below 9 volts.

Upon initial power up, the pedal will begin to pass audio after only a few seconds. It normally takes these few seconds for the tube filaments to warm up. Once warm, audio will pass and the unit will function. It does, however take several minutes for full circuit stabilization to occur. During this period the NuVision may sound a bit soggy, as the B+ voltage is initially lower than nominal. In less than 10 minutes full power will be reached and the sound will be more tight and precise.

The control set is fairly simple, with the only caveat being the interaction between the EQ switches and knobs, which I will explain further on. The “In” is a volume control that comes between the two gain stages of the pedal. An increased setting of this knob results in a larger signal amplitude injected into the second stage, which if large enough will result in saturation limiting. One can think of this knob as a distortion knob that also increases volume. The “Out” control knob is a passive volume attenuator. As one increases the “In” level, it may be desirable to reduce the “Out” level to prevent overdriving the input of the following device in your signal chain.

The onboard equalizer is passive in nature. The bass and treble knobs form a type of equalization circuit known as a “James” EQ. It is a shelving equalization circuit similar to the “Baxandall” design. The main difference is a Baxandall circuit is an active equalizer, whereas the James circuit is passive. The James circuit was designed into the NuVision to provide a nearly flat response when the knobs are set at 12:00. Boosting of bass or treble frequencies is accomplished by turning the respective control clockwise. Reduction of these frequencies is done in the reciprocal motion. There are two additional EQ controls, which were added to the James circuit to enhance its functionality. These controls provide a low frequency cutoff around 200Hz with a 6dB/octave slope and a high frequency cutoff around 2.8kHz with a 3dB/octave slope. The intended function of these switches is to provide tone shaping in the lows and highs when combined with the boost function of the bass and treble knobs. The idea behind this type of overlapping equalization comes from an old and much famed professional recording studio equalizer known as the Pultec EQP-1A. The process of boosting and cutting the lows, while simultaneously boosting and cutting the highs is a favorite trick of many well to do professionals in the recording and mixing world of music production.

Lastly, the NuVision offers true bypass of the effect via push button switch. The Lightning Boy Audio logo will become backlit when the effect is engaged and will turn off when the effect is bypassed.

Thank you for your attention. Go forth and enjoy! For questions, comments, or servicing, please email sales@lightningboyaudio.com.

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